

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Previously presented) An isolated protein having phytase activity comprising amino acid residues 23-433 of SEQ ID NO: 7.
2. (Previously presented) The protein as set forth in claim 1, wherein the protein has the following characteristics:
 - (a) molecular weight: about 47 kDa on SDS-PAGE,
 - (b) optimal pH: pH 3.5-pH 4.5,
 - (c) Optimal temperature: 45 °C -55 °C,
 - (d) substrate specificity: phytate, p-nitrophenyl phosphate, tetrasodium pyrophosphate, ATP or ADP,
 - (e) michaelis constant of 0.3-0.5 mM utilizing phytate as a substrate,
 - (f) high resistance to protease such as pepsin, trypsin, papain, elastase or pancreatin, and
 - (g) specific activity to phytate: at least 1,500 units/mg.
3. (Currently amended) The protein as set forth in claim 1, wherein the protein comprises ~~a polypeptide~~ the amino acid sequence ~~[[of]]~~ represented by SEQ ID NO:7.
4. (Canceled)
5. (Previously presented) The protein as set forth in claim 1, wherein the specific activity of the protein to phytate is at least 3,000 units/mg
6. (Previously presented) An isolated gene encoding the protein of claim 1.

7. (Currently amended) The gene as set forth in claim 6, wherein the gene has [[a]] the polynucleotide sequence [[of]] represented by SEQ ID NO:6.

8. (canceled)

9. (Previously presented) A feed additive containing the protein of claim 1 as an effective ingredient.

10-12. (canceled)

13. (Previously presented) The protein as set forth in claim 2, wherein the specific activity of the protein to phytate is at least 3,000 units/mg.

14. (Previously presented) The protein as set forth in claim 3, wherein the specific activity of the protein to phytate is at least 3,000 units/mg.

15. (Currently amended) An isolated gene encoding the protein of claim 2.

16. (Currently amended) An isolated gene encoding the protein of claim 3.

17-19. (canceled)

20. (Previously presented) A feed additive containing the protein of claim 2 as an effective ingredient.